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### The Cell.

THE first edition of Professor Wilson's work\* on the cell, which appeared in 1896, met a hearty welcome from biologists everywhere; it was reprinted the next year with the addition of an appendix which summarized the recent literature, and was again reprinted in 1898 with a similar appendix, but the literature of the subject had increased so much and the aspects of important problems were changing so rapidly that something more than an appendix was needed to bring the book up to date. Accordingly the entire work has been thoroughly revised, and over one hundred pages and fifty figures have been added. The problems of the centrosome, cell division, and fertilization, have been materially changed, some of the sections having been entirely rewritten. Recent experimental work in these subjects and in regeneration have received special attention. Changes and additions, however, are not confined to these subjects, but are found upon almost every page.

The treatment, as in the previous edition, is historical, and the careful citation of specific authority which enables the reader to weigh for himself the statements of the text makes the book indispensable to cytologists, whether they be zoologists or botanists.

The book, though still confessedly weak in the field of botanical cytology, shows a decided improvement over the previous edition, especially in the subjects of cell division, spermatogenesis, and fertilization. It is helpful to the botanist to get a view of his own problems from a zoological standpoint.

It is of special interest to botanists to note that the author regards the blepharoplasts of *Gingko*, *Cycas*, *Zamia*, *Marsilea*, etc., as genuine centrosomes, although he believes that Webber and Ikeno have produced apparently strong evidence that they arise separately and *de novo* in the cytoplasm.

He hesitates to accept Shaw's statement that in *Marsilea* the "blepharoplastoids" have no relation to the blepharoplasts which appear later; a decision is also withheld in regard to Webber's conclusion that in *Zamia* the blepharoplasts have a separate and independent origin. In regard to vegetative mitoses of the higher plants the statement is made that we should still hold open the possibility that centrosomes may occur, their apparent absence being possibly due to lack of staining capacity or similar conditions rendering their demonstration difficult.

"In the female the two maturation divisions give rise to the four primary cells of the embryo sac: and these two divisions undoubtedly correspond to the two maturation divisions in animals. In the female only one of the resulting cells gives rise to the egg, the other three corresponding to the

\* WILSON, E. B.: The cell in development and inheritance. 2d edition, revised and enlarged. 8vo., pp. xxi+483, *figs.* 194. New York: Macmillan Company. 1900. \$3.50.

polar bodies of the animal egg, though they here continue to divide and give rise to rudimentary prothallium."

Morphologists of today can hardly accept the statement that the "pollen tube represents a rudimentary male prothallium or sexual generation."

The paragraph on fertilization in plants has been considerably improved, notably by the account of double fertilization in angiosperms.

Considerable space is devoted to the reduction of the chromosome in plants, but no decision is reached as to whether there is a reducing division such as has been described by vom Rath and others.—C. J. CHAMBERLAIN.

### MINOR NOTICES.

A SECOND EDITION of Wiesner's *Die Rohstoffe des Pflanzenreiches* has begun to appear from the press of Wilhelm Engelmann.<sup>3</sup> Three parts, each containing 160 pages, have already been published, and the remaining two parts of the first volume are promised before the close of the present year. Another volume of the same size will be needed to complete the work, and probably its publication will be well advanced within the year.

As compared with the first edition, issued in 1873, the present is completely rewritten and extended to about double its former size. In the present parts Professor Wiesner writes the introduction (47 pp.) and the sections on gums (82 pp.), and resins (226 pp.); Professor K. Mikosch writes on the caoutchouc group (43 pp.), the catechu group (14 pp.), and the fats (incomplete); Professor A. E. Vogl on opium (14 pp.) and aloes (10 pp.); and Professor H. Molisch on indigo (24 pp.).

This collaboration (the complete list of collaborators, as announced, includes eleven names) puts the different subjects into the hands of specialists and insures prompter completion of the work.

In each section, varied to suit the special case, the general plan of treatment includes an account of the plants yielding the substance and their distribution, the mode of obtaining it, its commercial characteristics, its physical, chemical, and microscopical qualities, and its uses. Both botanical and technical users, therefore, will find this work a mine of information regarding plant products.—C. R. B.

THE ELEVENTH EDITION of Prantl's *Lehrbuch der Botanik*<sup>4</sup> has been issued by Engelmann. The revisions of this popular text-book have been under the charge of Dr. Pax, of Breslau, since the death of the author.

<sup>3</sup>WIESNER, JULIUS: *Die Rohstoffe des Pflanzenreiches. Versuch einer technischen Rohstofflehre des Pflanzenreiches. Zweite gänzlich umgearbeitete und erweiterte Auflage.* Leipzig: Wilhelm Engelmann. 1900. Pro lief. *M* 5.

<sup>4</sup>PAX, FERDINAND: *Prantl's Lehrbuch der Botanik. Elfte verbesserte und vermehrte Auflage.* 8vo, pp. viii + 455, *figs.* 414. Leipzig: Wilhelm Engelmann. 1900. *M* 4.60; geb. 6.10.